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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,186	02/04/2004	Norm Jouppi	200313764-1	4684

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EXAMINER

LE, VU

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/772,186

Applicant(s)

JOUPII, NORM

Examiner

Vu Le

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-8, 11-16 and 21-28 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 9, 10 and 17-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 11-12, 14-16, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al, US 6,335,754.

Re claim 1, Endo discloses a system for displaying a wide field of view video image of a location (figs. 3, 8, 22), the system comprising:

a plurality of location cameras for placement at the location to capture the wide field of view video image as a plurality of individual video images together covering the desired field (figs. 8 & 22, col. 9, lines 11-37; col. 10, lines 36-55);

a distance sensor unit for sensing distances of closest objects in one or more overlap areas between field of views of the location cameras from the two or more location cameras covering each respective overlap area;

(Endo does not explicitly disclose a distance sensor unit as claimed. However, Endo teaches (see fig. 22, also col. 13, lines 7-57) generating a synthesized panoramic image so that images of an object **P** located at a distance **L_o** are smoothly connected upon interpolation of images obtained from two cameras. A triangular region having a point **P** as a vertex in front of the cameras is a dead zone. A point **P'** (i.e. distance **L**) is the one in a region doubly sensed by both the cameras, in effect, the overlapping

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region. Hence, when the two images are connected, the object **P** forms double images, and the difference between the image locations of the double images are obtained.

Thus, the overlap angle between a pair of cameras 20a and 20b, 20c and 20d, or 20e and 20f (see fig. 8) is set in consideration of the above difference. Furthermore, Endo takes into consideration the distance to the closest object during synthesizing the panoramic image (see col. 13, lines 38-57). Despite the lack of explicit disclosure of the distance sensor unit as claimed, it would have been obvious to one skilled in the art, gleaned from the above teaching, to conclude that Endo necessarily requires a means to obtain distance measurements such as L_o and L in order to calculate overlapping regions)

a display unit for displaying the plurality of individual video images to a user for creating a visual experience of the location based on the sensed distances to the closest object (see fig. 1).

Re claim 2, the system of claim 1 further comprising a processor unit for determining a horizontal span of each individual video image displayed by the display unit based on the sensed distances of the closest objects. (See col. 13, line 58 to col. 14, line 16, also fig. 16 shows computer 50 as the processor unit for providing image interpolation of a wide-area walkthrough discussed in the cited columns).

Claims 11-12 have been analyzed and rejected w/r to claims 1-2. Figure 1 of Endo shows a 360° display.

Claims 14-15 have been analyzed and rejected w/r to claims 1-2.

Claim 16 has been analyzed and rejected w/r to claims 1-2.

Claims 21-22 have been analyzed and rejected w/r to claims 1-2.

3. Claims 3, 6-8 and 13 and 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al, US 6,335,754 as applied to claims 1-2 and 11-12 and 21-22 above respectively and further in view of Baker, US 2004/0027451.

Re claim 3, Endo fails to disclose the system further comprising four location cameras in a square arrangement for capturing an outwardly directed 360° field of view of the location, and the display unit comprising four display screens in a square arrangement, each display screen arranged for displaying the individual video image of one the location cameras to a user located inside the square screen arrangement as claimed. However, Baker teaches the above aspect (see fig. 15a).

Therefore, taking the combined teaching of Endo and Baker as a whole, it would have been obvious to modify Endo such that the system would have incorporated the technical features as recited in claim 3. Doing so would provide the proposed modified system of Endo the capability and benefit of a videoconferencing embodiment as suggested by Baker (see para 0220 – 0231).

Re claim 6, the system of claim 2, further comprising at least one user camera for capturing at least one video image of the user, and a second display unit for placement at the location to display the captured video images of the user at the location. (See Baker, fig. 15a, para 0220 – 0231).

Re claim 7, the system of claim 6, wherein the system includes a plurality of user cameras and the second display unit comprises a plurality of screens, each screen

arranged for displaying a video image from the user cameras. (See Baker, fig. 15a, para 0220 – 0231).

Re claim 8, the system of claim 6, wherein the second display unit integrated with cameras at the location with a structure for placement of the location cameras at the location. (See Baker, fig. 15a, para 0220 – 0231).

Re claim 13, the system of claim 12 wherein the display unit comprises four screens arranged in a square. (See Baker, fig. 15a, para 0220 – 0231. Motivation to combine is discussed in claim 3 above).

Re claim 23, the system of claim 21 wherein the plurality of cameras includes four cameras arranged in a square, with each camera having an image capture field spanning at least 90°. (See Baker, fig. 15a, para 0220 – 0231. Motivation to combine is discussed in claim 3 above).

Re claim 24, the system of claim 23 wherein the display unit comprises four display screens in a square arrangement, wherein each display screen is configured to display an image segment derived from an image captured by a different one of the plurality of cameras. (See Baker, fig. 15a, para 0220 – 0231. Motivation to combine is discussed in claim 3 above).

Re claim 25, the system of claim 24 wherein the display unit is configured to provide a user with a panoramic view of a remote location at which the plurality of cameras are located. (See Baker, fig. 15a, para 0220 – 0231. Motivation to combine is discussed in claim 3 above. Furthermore, the embodiment in Baker is for videoconferencing enabling panoramic viewing of a remote location).

Re claim 26, the system claim 25 wherein the system further includes a remote unit, housing the plurality of cameras, and that is located at the remote location. (See Baker, fig. 15a, para 0220 – 0231. Motivation to combine is discussed in claim 3 above. The embodiment in Baker as shown in figure 15a is for videoconferencing enabling panoramic viewing of a remote location. It qualifies as a remote unit since each of these units together make up a videoconference session).

Re claim 27, the system claim 26 wherein the system further includes at least one camera associated with the display unit that is configured to capture an image of the user of the display unit, and wherein the remote unit includes at least one display screen to display the captured image of the user of the display unit. (See Baker, fig. 15a, para 0220 – 0231. Motivation to combine is discussed in claim 3 above. The embodiment in Baker as shown in figure 15a is for videoconferencing enabling panoramic viewing of a remote location. It qualifies as a remote unit since each of these units together make up a videoconference session).

Re claim 28, the system of claim 27 wherein the remote unit is configured to provide an avatar for the user of the display unit at the remote location. (See Baker, fig. 15a, para 0220 – 0231. Motivation to combine is discussed in claim 3 above. The embodiment in Baker as shown in figure 15a is for videoconferencing enabling panoramic viewing of a remote location. It qualifies as a remote unit since each of these units together make up a videoconference session. The videoconferencing session qualifies as an avatar for the user).

Allowable Subject Matter

4. Claims 4-5, 9-10, 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fail to anticipate or render obvious the following limitations as claimed:

“the processor unit is arranged for calculating pixel column positions for desired horizontal frame edges of each displayed individual video image, and for determining a horizontal scale for each displayed individual video image based on the calculated pixel column positions” as recited in claims 4 and 17;

“wherein the display unit is arranged for effecting a change in the horizontal span of each displayed individual video image without changing a vertical span of each displayed individual video image” as recited in claims 5 and 18;

“wherein the distance sensor unit comprises a pair of sensor elements associated with each location camera, and wherein the sensor elements of the pair are arranged for sensing distances of closest objects from the associated location camera along opposite vertical edges of the field of view said associated location camera” as recited in claims 9 and 19.

Claim Objections

5. Claim 25 is objected to because of the following informalities:

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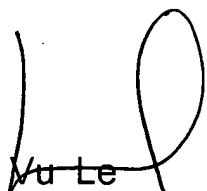
In line 2, after the first occurrence of "provide", delete "a provide". Appropriate correction is required.

Contact

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Le whose telephone number is (571) 272-7332. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. Customer Service can be reached at (571) 272-2600. The fax number for the organization where this application or proceeding is assigned is (571) 273-7332.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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